

WALLVIEW™ CCU HE100 WITH HSDS™

Vaddio™ Quick-Connect™ CCU System for the Panasonic® AW-HE100 PTZ Camera



OVERVIEW

The Vaddio WallVIEW CCU HE100 (Figure 1) is built for use with the Panasonic AW-HE100 high definition PTZ Camera. Vaddio's HE-100 camera is designed for easier integration where the standard Panasonic RS-422 control is converted to RS-232 for operation with our complete line of ProductionVIEW PTZ camera controllers and seamless switchers.

The Quick-Connect CCU HE100 allows the user to control the color output of the camera's image sensor, through both Red and Blue Gain knobs Detail, as well as Iris and Gain levels, to provide a higher quality image. In addition, there are also Pedestal, Gamma and Chroma adjustments for added fine-tuning of the camera's image. The system uses high speed differential signaling (HSDS), an active transmission system that delivers low-loss, high-quality video over CAT-5 cabling distances up to 500' (152.4m).

The system is capable of high definition (HD) 1080i or 720p component video and has a simultaneous SD composite video output. The AW-HE100 comes in either NTSC or PAL formats. The Quick-Connect CCU for the HE-100 has many new features, including Tally illumination on the camera which allows the presenter to know which camera is live, as well as Genlock delivered to the camera over CAT-5.



Figure 1: Quick-Connect CCU HE100 System with Camera (not included), Wall Mount and EZIM CCU (behind camera)

INTENDED USE

Before installing the Vaddio WallVIEW CCU Camera System, please read the entire manual thoroughly. All Vaddio camera systems are designed for use indoors. Outdoor operation is not recommended, has not been tested, and could damage the camera and/or create a potentially unsafe operating condition. Use only the Vaddio PowerRite power supply provided.

SAVE THESE INSTRUCTIONS

The information contained in this manual will help you install the Vaddio WallVIEW CCU system. For reference, Vaddio keeps copies of Specifications, Installation and User Guides and most pertinent product drawings for the Vaddio product line on the website. These documents can be downloaded from www.vaddio.com free of charge.

IMPORTANT SAFEGUARDS

Read and understand all instructions before using. Do not operate any electrical device if it has been dropped or damaged. In this case, a Vaddio technician must examine the product before operating. To reduce the risk of electric shock, do not immerse in any liquids and avoid extremely humid conditions.



Use only the approved power supplies provided with the system.
Use of any unauthorized power supply will void any and all



Do not use RJ-45 "pass-thru" connectors. Use standard RJ-45 connectors for best results.

INFORMATION

For RS-422 control information, please see the full-length Manual for the PANASONIC AW-HE100 posted on the Vaddio or Panasonic website. Vaddio has also prepared a number of TechNotes, specifications and drawings designed to inform and educate integrators on the value and the specific uses of Vaddio products.

UNPACKING

Carefully remove and identify the following parts for the WallVIEW CCU HE100 system:

- One (1) Panasonic AW-HE100 – Modified 12 VDC Version - with IR Remote
- One (1) Quick-Connect CCU (998-1105-014) with 2-position Phoenix Type Connector
- One (1) CCU EZ Interface Module CCU (998-6700-002) EZIM CCU
- One (1) CCU HE100 25-pin Breakout Cable (440-6707-110)
- One (1) DB-9F to RJ-45F, RS-232 to RS-422 Adapter (998-1005-232)
- One (1) CommFront CVT-485_422-1 Port Powered RS-232 to RS-422 Converter
- One (1) 1' Cat 5 Patch Cable
- One (1) Wall Mount AW-HE100 (535-2000-229) and Mounting Hardware
- One (1) 36V PowerRite Power Supply with AC Cord Set
- One (1) User Manual (341-789)
- Documentation
 - Vaddio Manual
 - Panasonic Manual

AW-HE100 Camera, Wall Mount with EZIM CCU (behind camera)

Wiring Diagram Example:

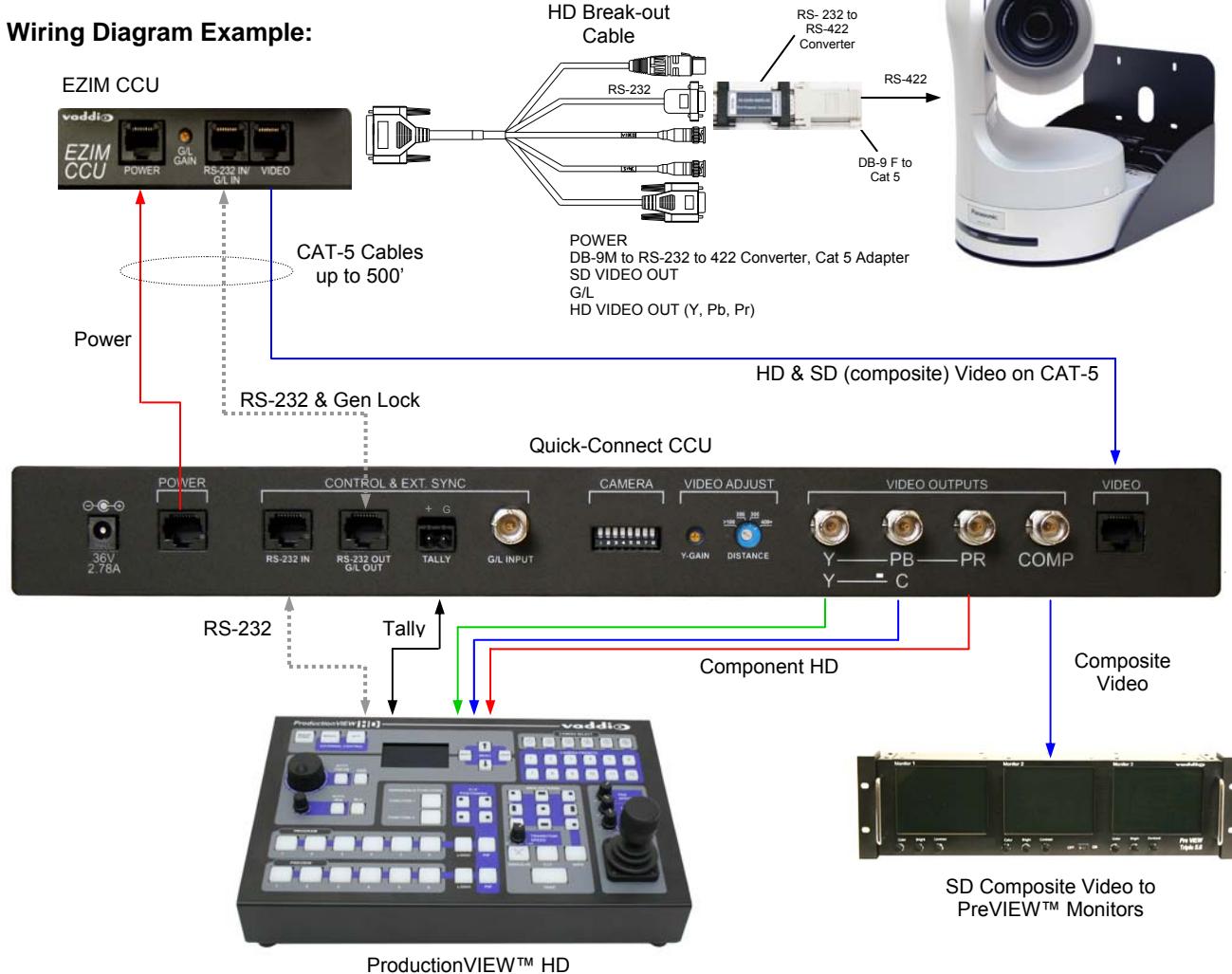


Figure 2: The Quick-Connect CCU System uses a Cat. 5 (all 4-pairs) for power to ensure the motors receive the required current to operate properly. The Video Cat. 5 cable uses all four pairs for video. The RS-232 Cat. 5 provides communication to the camera for CCU and PTZ control and G/L (where applicable) to the camera. These Cat. 5 cables can be run up to 500' (152.4m). See Appendix 1 for wiring and pin-out information. NOTE: A direct RS-232 Cat. 5 cable is required for each Quick-Connect CCU and camera, with the RS-232 converted to RS-422 at the break out cable. Daisy-Chain is not supported with the AW-HE100 camera.

Quick-Connect CCU Front Panel Controls (left to right):

Tally Light:

The blue LED tally light on the front panel is tied to the tally contacts on the rear panel allowing the user to easily track which camera interface is being used in a multi-camera system by supplying a simple contact closure (i.e. from ProductionVIEW Super Joystick or ProductionVIEW HD).

LCD Display:

Backlit (blue) display indicates which mode is active (CCU CONTROL or PTZ CONTROL) and the value of the parameter being adjusted. In CCU CONTROL mode, when a rotary encoder is touched, the name of the control being actuated and the value of that assigned parameter will be displayed.

CCU Control Switch:

Backlit (blue) SPDT switch, lit when activated, blocks the incoming PTZ controls on the RS-232 input and allows the end user to make adjustments to the camera image characteristics. When off or deactivated, PTZ information is throughput to the camera and the front panel controls of the QCCU are deactivated to avoid a control issue or latency created by a master control string filtering program.

Scene A and B:

Two camera adjustment scenes (A & B) can be stored into microprocessor memory. When lit (backlit blue SPDT switch), the scene is activated. To store a scene, the user adjusts the controls and touches and holds the scene button down until the button blinks.

Detail:

The Detail control sharpens or softens objects in the frame.

Red & Blue Gain Controls:

The Red and Blue Gain encoders adjust the red and blue gain of the signal when AWB is disengaged.

AWB:

The Automatic White Balance controls/adjusts the color levels automatically when engaged. Turn off AWB to manually adjust the Red and Blue levels, as well as Red, Green and Blue Enhance.

OPWB:

One-Push White Balance control allows the user to set the white balance with one push (the camera must see 60% of the image as white in order to operate). OPWB overrides AWB and Red/Blue controls when activated.

Pedestal, Chroma & Gamma:

The Pedestal adjustment controls the absolute black level of an image. Chroma controls the overall color of the image being captured. Gamma adjusts the overall brightness of an image.

Auto Iris:

The Auto Iris mode automatically adjusts the iris and gain of the camera. To manually adjust the iris or gain, turn off this control.

Manual Iris:

The manual iris control allows the user to set the iris manual to one of the 18 settings available.

Gain:

The Gain control boosts the signal level when the iris is open all the way, and there is not enough lighting available. To manually adjust the gain Auto Iris must be off.

Rear Panel Connections and Controls (Left to Right):



Power Supply Input:

36V 2.78 Amp power supply on a 5.5mm OD x 2.5mm ID connector.

Power on RJ-45:

Power is provided on a Cat. 5 cable to EZIM CCU.

RS-232 IN on RJ-45:

RS-232 Input from ProductionVIEW or PTZ controller. Daisy Chain control is not supported.

RS-232 OUT / G/L Out on RJ-45:

RS-232 and G/L outputs on Cat. 5 provide control and sync to the EZIM CCU. NOTE: See Appendix 1 for information on adjusting Genlock Gain on the EZIM.

Tally on 2-pin Phoenix type connector:

Contact Closure lights LED on front panel allowing indication of which QCCU/camera combination is active in a multi-camera/QCCU installation. A tally command will also be sent to the camera to illuminate the LED on the cameras that have on-board tally lights (AW Series cameras).

G/L Input on BNC-F:

For use with black burst generators to externally sync the cameras. This input is transmitted through a differential amplifier to a receiver at the EZIM CCU. The G/L gain adjustment is on the EZIM CCU or the receive side of the signal.

Camera Feature Switches:

The QCCU interface has an 8-position dip switch on the rear panel to allow future functionality. Switch 2 needs to be in the UP position for the AW-HE100 to function properly.

Y-Gain:

Adjusts Y-Gain and allows the user to fine tune the video signal especially over longer cable lengths. Adjust to taste and system requirements.

Distance:

Distance Adjustments for Cat. 5 cable (<100', 200', 300', 400'+) equalizes the length of the twisted pairs for improved video performance.

Video Outputs:

Four Video Signals at any one time can be transmitted from the EZIM CCU concurrently allowing the CCU system to return HD and SD (composite video on cameras with simultaneous outputs, such as the AW-HE100) at the same time.

Connector Labels and Supported Video Signals

Y/Y:	Y of YPbPr - or - Y (luminance) of Y/C on BNC-F connector
PB/C:	PB of YPbPr - or - C (chrominance) of Y/C on BNC-F connector
PR:	PR of YPbPr only on BNC-F connector
COMP:	Composite (CVBS) Video on BNC-F connector

Video RJ-45

Return of the camera's four (4) video signals from the EZIM CCU to the Quick-Connect CCU on Cat. 5 cable.

INSTALLATION

All Quick-Connect products are specifically designed for installation on a vertical wall surface with CAT-5 cable connectivity for Power, Video and Control signaling. Installation is simplified in that no custom 8-Pin mini-din cables or expensive VGA plenum cables are needed and no power outlets are required near the camera bracket. All cabling is routed to the head-end using CAT-5 cables.

Before Installing

- Find the appropriate camera mounting location, paying close attention to camera viewing angles, lighting conditions, possible line of site obstructions, and checking for in-wall obstructions where the camera is to be mounted. Pick a mounting location to optimize the performance of the camera.
- Pre-wire all cabling as required (see wiring diagram examples).
- The Thin Profile Wall Mount for the WallVIEW HE100 can be mounted directly to a 3-gang wall box or can be mounted to drywall using four dry wall anchors.

MOUNTING INSTRUCTIONS

Step 1:

After determining the optimum location of the camera system, mark locations for the four screw holes and cable pass-thru (vertical oval). Install the drywall mounts and cut the hole for the cable pass-thru. At this point, do not install the Wall Mount.



Figure 3:
Wall Mount with oval cable feed-through hole.
The wall mount may be mounted directly to a 3-gang wall box or to drywall with the appropriate wall anchors.

Step 2:

Connect the 25-pin cable to the EZIM CCU. Next, mount the EZIM CCU and break out cable in the base of the wall mount, using the two tapped screw holes (see Figure 4).



Figure 4:
25-pin connector mounted to
EZIM CCU (left) and EZIM
CCU mounted to the Wall
Mount (right).

Exact cable not shown -
see Appendix for cable
configuration.

Step 4:

Take the Wall Mount, with the EZIM CCU and break out cable installed, and place it against the drywall anchors or 3-gang wall box, making sure to pull the CAT-5 cables through the oval pass-through hole. Finger-tighten the screws to the mount and confirm that the base is level. Tighten the screws firmly. If the bracket is to be mounted on a 3-gang wall box, use the screws supplied with the electrical box.

Step 5:

Confirm that the CAT-5 cables are terminated correctly, by testing them with a continuity tester. Next, connect the break out cables to the appropriate ports. The break out cable for the HE 100 has an RS-232 to RS-422 adapter in-line, with a 1 ft. CAT-5 cable, which connects to the Controller port on the back of the camera (see Figure 4). Secure the camera to the mount and using the 1/4"-20 screws.

Step 6:

The Quick-Connect CCU interface has an 8-position dip switch on the rear panel (see page 4). Set Dip Switch 2 to the UP position. All other switches should be in the DOWN position.

Description	Dip Switch (Up = ON)	1	2	3	4	5	6	7	8
Panasonic AW-HE100			UP						
• Setting the #2 dip switch to the UP position allows Vaddio's ProductionVIEW controllers and switchers to recognize the camera.	DN		DN						

Step 7:

The Quick-Connect CCU is a 1-RU rack mount interface that breaks out the signals from the Cat. 5 cables back to the standard connectors. The basic system connectivity is illustrated in Figure 2.

Note: Plugging the POWER CAT-5 Cable into the wrong RJ-45 may cause damage to the camera system and void the warranty.

COMPLETING THE INSTALLATION:

Connect the Vaddio 36 VDC power supply to an AC outlet. Power will travel down the Power CAT-5 cable to the cable shoe, powering the camera. The camera will "Home" to a centered position ready for control information from the provided IR Remote Commander or RS-232 Camera controller of the integrators' choice. To insure proper continuity of control and operation of the cameras, the RS-232 controller (control system or joystick) should be powered on after the camera.

Setting Up the AW-HE Video Format and Output Settings:

The CCU system is capable of accessing the HE 100s internal settings for format (1080/59.94i, 720/59.94, 480i, etc.) and output mode (YPbPr, RGB, Y/C). Once the camera and CCU are powered up, the configurations can be set. The procedure is as follows:

The camera setup state is triggered by holding down the AWB and OPWB buttons on the Quick-Connect CCU at the same time for approximately 5 seconds. The lights will blink when the setup mode is entered and "Format/Output" will be displayed on the LCD screen of the CCU. Once the "Format/Output" is displayed, adjusting these settings can begin.

Camera Picture Format Adjustment: Turn the Pedestal knob on the Quick-Connect CCU to scroll through the format options of the camera, which range from 480/29.97psF to 1080/30p. Once the appropriate resolution is displayed on the LCD screen, this is the setting that will be saved. **NOTE:** Not all of the resolution options on the HE 100 will be recognized by the receiving device (ProductionVIEW HD or HD video monitor, etc.), so be sure to select an appropriate resolution for your external device that is connected to the Quick-Connect CCU.

Press the Auto Iris button to save the setting and "Format Saved" will be displayed on the LCD screen.

Camera Output Mode: Turn the Chroma knob on the Quick-Connect CCU to scroll through the output options, which are RGB, YPbPr and Y/C. Once the appropriate output mode is displayed on the LCD screen, this is the setting that will be saved (**NOTE:** Use only YPbPr with the Quick-Connect CCU).

Press the Auto Iris button to save the setting and "Output Saved" will be displayed on the LCD screen.

Setting the Format and Output Settings (continued):

NOTE: Only values that are valid for the specific camera firmware will be saved. Confirmation of the format or output saved can be verified by turning the Pedestal or Chroma knobs.

Exiting Camera Setup Mode: Exiting this configuration mode is done by pressing either the AWB or OPWB button on the Quick-Connect CCU. "Exit Setup" is displayed on the LCD screen when either button is pressed.

All of the cameras Format and Output settings can be accessed with the Panasonic IR Remote Control.

Connecting the Tally Port (optional)

The CCU system is capable of illuminating a Tally light on the front of the Quick-Connect enclosure. This light provides a visual indicator to the equipment operator to know which camera is live during a broadcast. In addition the tally function will illuminate the tally light on the front of the camera lens, to allow the presenter to know which camera is live.

General Specifications

WallVIEW CCU HE100	
Part Numbers	WallVIEW CCU HE100 999-6107-000 (NTSC) WallVIEW CCU HE100 999-6107-001 (PAL)
• Panasonic AW-HE100	
Image Device	1/3" CCDs x 3
Signal System	N: 1080/59.94i, 720/59.94p, 480i, P: 1080/50i, 720/50p, 576i
Lens	13x Optical Zoom
Focal Length	f=4.2 to 55mm
Horizontal Viewing Angle	5.1 to 60 degrees (16:9); 3.8 to 47 degrees (4:3)
Pan/Tilt Angle	-175 to +175 degrees (Pan), -40 to +210 degrees (Tilt)
• Quick-Connect CCU Interface (QCCU)	
Connectors	Power Connector: 5.5mm OD x 2.5mm ID Power RJ-45: Supplies 36V to EZCamera Interface Module Regulator Control In RJ-45: Accepts RS-232 from ProductionVIEW or other non-daisy-chain control systems Control Out RJ-45: Passes RS-232 and Sync video feed to camera EZIM Tally: 2-Pin Phoenix type spring cage connector G/L Input: BNC Connector for Sync Video Outputs: BNC Connectors for HD Analog Component (Y,PB,PR) / SD (Composite) Video RJ-45: Transports HD video from camera EZIM
Camera Select Switch	Dip Switch 2 UP for WallVIEW CCU HE100 (the rest remain down)
Video Adjustments	Y-Gain (luminance gain) for fine tuning over longer cable distances Distance Compensation: 100', 200', 300', 400'+
CAT-5 Cable Distance	Up to 500' (152.4m)
Power Supply	36 VDC, 2.78 Amp
Dimensions	1-RU Rack Mount - 1.75" H x 19" W x 6" D (4.45 cm x 4.26 cm x 15.24 cm)
• EZCamera Interface Module CCU (EZIM)	
Connectors	Three (3) RJ-45 Connectors One DB-25 for Power, Video, Control & Genlock
EZIM CCU Cable Assembly	For Panasonic HE100 Camera: DB-25M to DB-15HD, DB-9 to RJ-45, BNC x 2, 4-Pin XLR-F Power Connector PN# 440-6707-110
Power Regulator	Supplies 12VDC to Cameras
Dimensions	3" H x 4.5" W x 1.2" D (7.6 cm x 11.4 cm x 3 cm)
• Thin Profile Wall Mount HE100	
Materials	12-Gauge CRS with Black Powder Coat Paint
Dimensions	8" H x 8.5" W x 13.5" D (20.3 cm x 21.6 cm x 34.3 cm)
Weight	Approx. 6 lbs. (2.7kg)

FCC, ICES-003 Compliance and CE Declaration of Conformity

For Vaddio Quick-Connect CCU and EZIM CCU products



FCC Part 15 Compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference including interference that may cause undesired operation of the device.

Changes or modifications not expressly approved by Vaddio can affect emission compliance and could void the user's authority to operate this equipment.



Industry
Canada

Industrie
Canada

ICES-003 Compliance

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicte par le ministère des Communications du Canada.



European Compliance

This product has been evaluated for Electromagnetic Compatibility under the standards for Emissions and Immunity and meets the requirements for E4 environment. This product complies with Class A (E4 environment). In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

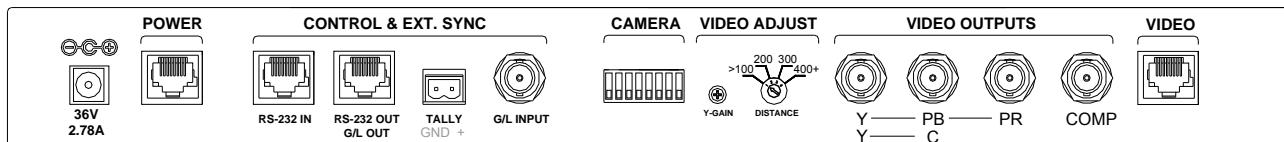
Standard(s) To Which Conformity Is Declared:

EMC Directive 89/336/EEC

EN 55022A	Conducted and Radiated Emissions
EN 55024	Electromagnetic Compatibility - Immunity
EN 61000-4-2	Electrostatic Discharge Requirements
EN 61000-4-3	Radiated Electromagnetic Field Requirement
EN 61000-4-4	Electrical Fast Transients / Burst Requirements
EN 61000-4-5	Surge Requirements
EN 61000-4-6	Conducted Immunity Requirements
EN 61000-4-8	Power Frequency Magnetic Field Requirements
EN 61000-4-11	Voltage Dips, Interrupts and Fluctuations Requirements

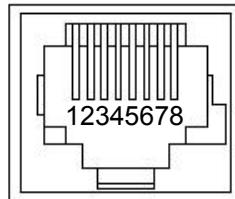
Appendix 1: Cable Pin-outs for the Quick-Connect CCU System

Quick-Connect CCU Pin-out Assignments:



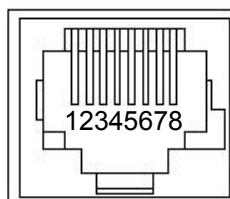
Power Connector RJ-45

Pin	Signal
1)	Power +
2)	Power -
3)	Power +
4)	Power -
5)	Power +
6)	Power -
7)	Power +
8)	Power -



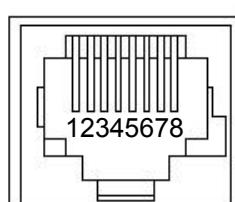
RS-232 IN Connector RJ-45

Pin	Signal - RS-232
1)	Not Used
2)	Not Used
3)	Not Used
4)	Not Used
5)	Not Used
6)	GND
7)	RXD (from TXD)
8)	TXD (to RXD)



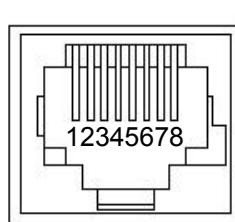
RS-232 / G/L OUT Connector RJ-45

Pin	Signal - RS-232
1)	Not Used
2)	Not Used
3)	Not Used
4)	G/L
5)	G/L GND
6)	GND
7)	RXD (from TXD)
8)	TXD (to RXD)



Video Connector RJ-45

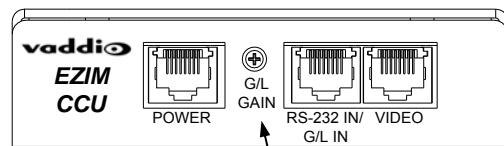
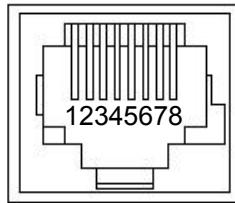
Pin	Signal	
1)	SD CVBS +	HD CVBS +
2)	SD CVBS GND	HD CVBS GND
3)	SD Y+	HD Y+
4)	SD C+	HD PB+
5)	SD C GND	HD PB GND
6)	SD Y GND	HD Y GND
7)	SD Not Used	HD PR+
8)	SD Not Used	HD PR-



EZIM CCU Pin-out Assignments

Power Connector RJ-45

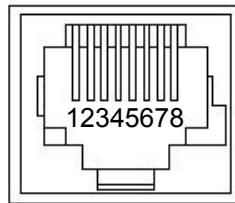
Pin	Signal
1)	Power +
2)	Power -
3)	Power +
4)	Power -
5)	Power +
6)	Power -
7)	Power +
8)	Power -



Genlock Gain Adjustment:
Genlock Gain is set at the factory to the 3 o'clock position, which provides standard blackburst level. Adjust the gain level up or down if required to synchronize the camera to other devices.

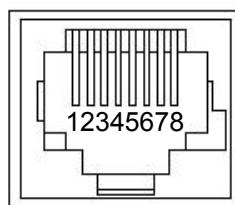
RS-232 IN Connector

Pin	Signal - RS-232
1)	Not Used
2)	Not Used
3)	Not Used
4)	G/L+
5)	G/L GND
6)	GND
7)	RXD (from TXD)
8)	TXD (to RXD)



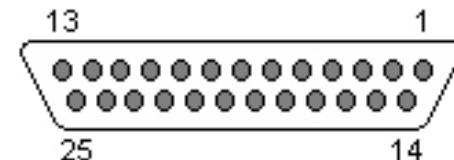
Video Connector RJ-45

Pin	Signal	SD	HD
1)	CVBS +	CVBS +	CVBS +
2)	CVBS GND	CVBS GND	CVBS GND
3)	Y+	Y+	Y+
4)	C+	PB+	PB+
5)	C GND	PB GND	PB GND
6)	Y GND	Y GND	Y GND
7)	Not Used	PR+	PR+
8)	Not Used	PR-	PR-

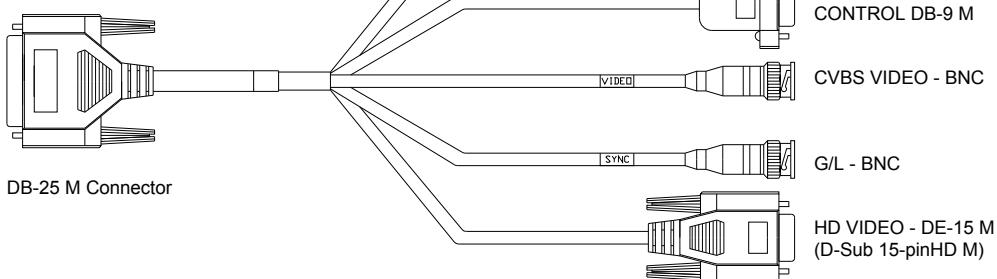


EZIM DB-25 Connector

Pins	Signal
1	CVBS GND
14	CVBS
2	G/L GND
15	G/L
3	NC
16	GND IN
4	TXD IN
17	RXD IN
5	NC
18	NC
6	NC
19	NC
7	GND - PR
20	PR
8	GND - C/PB
21	C/PB
9	GND - Y/Y
22	Y/Y
10	GND - PWR
23	GND - PWR
11	GND - PWR
24	12V - PWR
12	12V - PWR
25	12V - PWR
13	12V - PWR



EZIM CCU Breakout Cable for
WallVIEW CCU HE100
PN# 440-6707-110



WARRANTY INFORMATION

Hardware* Warranty - One year limited warranty on all parts. Vaddio warrants this product against defects in materials and workmanship for a period of one year from the day of purchase from Vaddio. If Vaddio receives notice of such defects during the warranty period, they will, at their option, repair or replace products that prove to be defective.

Exclusions - The above warranty shall not apply to defects resulting from: improper or inadequate maintenance by the customer, customer applied software or interfacing, unauthorized modifications or misuse, operation outside the normal environmental specifications for the product, use of the incorrect power supply, improper extension of the power supply cable or improper site operation and maintenance.

Vaddio Customer service – Vaddio will test, repair, or replace the product or products without charge if the unit is under warranty and is found to be defective. If the product is out of warranty, Vaddio will test then repair the product or products. The cost of parts and labor charge will be estimated by a technician and confirmed by the customer prior to repair. All components must be returned for testing as a complete unit. Vaddio will not accept responsibility for shipment after it has left the premises.

Vaddio Technical support - Vaddio technicians will determine and discuss with the customer the criteria for repair costs and/or replacement. Vaddio Technical Support can be contacted through one of the following resources: e-mail support at support@vaddio.com or online at www.vaddio.com.

Return Material Authorization (RMA) number - Before returning a product for repair or replacement, request an RMA from Vaddio's technical support. Provide a technician with a return phone number, e-mail address, shipping address, and product serial numbers and describe the reason for repairs or returns as well as the date of purchase and proof of purchase. Include your assigned RMA number in all correspondence with Vaddio. Write your assigned RMA number on the shipping label of the box when returning the product. Please see Vaddio's website for current RMA policies and procedures.

Voided warranty – The warranty does not apply if the original serial number has been removed or if the product has been disassembled or damaged through misuse, accident, modifications, or unauthorized repair. Cutting the power supply cable on the secondary side (low voltage side) to extend the power to the device (camera or controller) voids the warranty for that device.

Shipping and handling - Vaddio will not pay for inbound shipping transportation or insurance charges or accept any responsibility for laws and ordinances from inbound transit. Vaddio will pay for outbound shipping, transportation, and insurance charges for all items under warranty but will not assume responsibility for loss and/or damage by the outbound freight carrier. If the return shipment appears damaged, retain the original boxes and packing material for inspection by the carrier. Contact your carrier immediately.

Products not under warranty - Payment arrangements are required before outbound shipment for all out of warranty products.

**Vaddio manufactures its hardware products from parts and components that are new or equivalent to new in accordance with industry standard practices.*

CARE AND CLEANING

- Do not attempt to take the products in the system apart. There are no user-serviceable components.
- Keep the devices away from food and liquid, and do not spill liquids on the products.
- For smears or smudges on the lens, wipe with a clean, soft cloth. Do not use any abrasive chemicals on the camera body at any time.

OPERATING AND STORAGE CONDITIONS

Do not store or operate the Quick-Connect CCU System under the following conditions:

- Temperatures above 40°C (104°F) or below 0°C (32°F), for Indoor Use Only
- High humidity, condensing or wet environments
- Dusty environments
- In inclement weather
- Under severe vibration



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